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State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining

ROBERT L. MORGAN
Executive Director
LOWELL P. BRAXTON
Division Director

Supervisor CR for DH

Inspection Report
Minerals Regulatory Program
Report Date: September 27, 2004

Mine Name: Skull Valley Diatomaceous Earth
Operator or Permittee Name:
Holcim US, Inc.
Permittee Mailing Address:
6055 E. Croydon Rd., Auxiliary Route 3, Morgan, UT 84050

Inspector(s): Paul Baker

Other Participants: None

Permit Status: Active
Current Acreages:
Total Permitted (Bonded): 4
Total Disturbed: Exact acreage unknow; I estimate about 6 acres disturbed with 4 regraded

Permit number: M/045/060
Inspection Date: September 24, 2004

Weather: Clear, 60's
Inspection Start Time: 9:30 AM
Inspection End Time: 10:15 AM
Site location/Area Inspected (i.e. Pit #):
Entire area
Surface Ownership: BLM
Mineral Ownership: BLM
Mineral Mined: Diatomaceous Earth
Type of Mine: Surface

Elements of Inspection	Evaluated	N/A	Comment	Enforcement
1. Permits, Revisions, Transfer, Bonds	☒	☐	☐	☐
2. Public Safety (open shafts, adits, trash, signs, highwalls)	☒	☐	☐	☐
3. Protection of Drainages	☐	☐	☐	☐
4. Explosives, magazines	☐	☐	☐	☐
5. Deleterious Material	☐	☐	☐	☐
6. Roads (maintenance, surfacing, dust control, safety)	☒	☐	☒	☐
7. Concurrent Reclamation	☐	☐	☐	☐
8. Erosion Control	☐	☐	☐	☐
9. Demolition	☐	☐	☐	☐
10. Backfilling and Grading (trenches, pits, roads, highwalls, shafts, drill holes)	☐	☐	☐	☐
11. Water Impoundments	☐	☐	☐	☐
12. Soils	☒	☐	☒	☐
13. Revegetation	☒	☐	☒	☐
14. Air Quality	☐	☐	☐	☐
15. Other	☐	☐	☐	☐

Purpose of Inspection: The primary purpose was to look at the vegetation and soils in reclaimed areas. The operator has proposed expanding the mine but did not include soils or vegetation data. I wanted to see how well vegetation was doing in the reclaimed area.

Inspection Summary:

6. Roads

The road going in to the mine (the North Trail) and the road going east from the mine (Center Road) are covered with gravel and have relatively little dust. Where Center Road goes through the mine, there is no gravel, and much of the road surface has dust up to several inches deep. The dust has the consistency of flour.

My point in making this comment is not that I feel the operator is in violation of any Air Quality standards. No operations were being conducted during the inspection, and there was a water truck on site. Rather, I was impressed how little dust there was on the graveled roads compared to the road without gravel.

12. Soils

The soil in the area that has been reclaimed appears to be very silty. It forms a soft surface crust, and I do not think water would infiltrate well into this crust. While there is some structure, it is weak.

Photo 1 was taken within the disturbed area, but I believe it shows some undisturbed soil and a very clear, sharp demarcation between the soil and underlying layers. The surface soil appears to have more sand than the soil used in reclamation.

I did not get a good picture of the material being salvaged as topsoil, but it appears to include both the darker, sandier material from the surface and some silty material from below.

I do not have information about the chemical nature of the soil or subsoil, but the undisturbed vegetation includes both basin big sage and greasewood. The presence of sagebrush tells me the soil is not too salty, but greasewood says there is some salt. I do not know if there is increased salt at depth.

Based on this inspection, I feel more strongly than ever that the plan needs to contain baseline soils information, especially considering the lack of revegetation success.

13. Vegetation

Vegetation in the reclaimed area appears to be 100 percent halogeton, Russian thistle, and kochia (Photo 2). The kochia tended to be in the bottom of the pit (Photo 3). I saw no desirable plants at all. There are several factors that could have contributed to this, including failure to plant seed, poor quality seed, poor timing of the seeding, bad weather conditions, lack of surface roughening, and poor quality soils.

The operator needs to do everything possible to maximize the chances for revegetation success at this difficult site. These include making sure the right soils are harvested and put back, planting in the fall and at no other time, using good quality seed from a reputable dealer, and keeping the surface very rough. Considering the nature of the soil, keeping a rough surface may be difficult, but it is very important.

Adjacent undisturbed areas also had a lot of halogeton, kochia, and Russian thistle, but sagebrush and greasewood were dominant (Photo 4).

GPS data: I did not take GPS data.

Inspector's Signature _____ **Date:** September 27, 2004

PBB:jb
cc: Lance Stephens, Operator
Salt Lake BLM
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ATTACHMENT
Photographs
Skull Valley Diatomaceous Earth Quarry, Holcim (US), M/045/060
Inspection Dated: September 24, 2004; Report Dated: September 27, 2004

Photo 1. A soil lens on the edge of the area being mined.

Photo 2. The reclaimed area. Vegetation in the foreground is halogeton, and the greener plants in the background are mostly Russian thistle.

Photo 3. *Kochia scoparia* in the bottom of the pit.

Photo 4. Vegetation in the adjacent undisturbed area. It is mostly sagebrush with greasewood, halogeton, cheatgrass, and Russian thistle.

Photo 5. Panorama of the reclaimed and active mining areas.